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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/520,697  | 04/05/2005  | Sandra Hintz         | 5003073.059US1      | 9659             |
| 29737   | 7590        | 09/20/2007           | EXAMINER            |                  |
| SMITH MOORE LLP<br>P.O. BOX 21927<br>GREENSBORO, NC 27420 |             |                      | WINKLER, MELISSA A  |                  |
|   |             | ART UNIT             |                     | PAPER NUMBER     |
|   |             | 1709                 |                     |                  |
|   |             |                      | NOTIFICATION DATE   | DELIVERY MODE    |
|   |             |                      | 09/20/2007          | ELECTRONIC       |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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ruth.ridge@smithmoorelaw.com

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/520,697             | HINTZ ET AL.        |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Melissa Winkler        | 1709                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 April 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 - 14, 16, and 17 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 - 14, 16, and 17 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    - Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/11/05</u>   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Priority*

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on July 11, 2002. It is noted, however, that applicant has not filed a certified copy of the DE 102 31 356.3 application as required by 35 U.S.C. 119(b).

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 3, 5, 6, 8 - 10, 12 – 14, 16, and 17** are rejected under 35 U.S.C. 102(b) as being anticipated by WO00/52087 to Hähnle et al. For convenience, the citations below for Hähnle et al. are from the English-language equivalent of this document, US 6,750,262.

**Regarding Claim 1.** Hähnle et al. teach a process for preparing a water-absorbing polymer composition by foaming a polymerizable aqueous mixture (Column 3, Lines 45 – 48).

In addition to water, the polymerizable mixture contains monoethylenically unsaturated monomers with acidic groups (designated as group (a)), present in amount from 20 to 85% by weight (Column 4, Lines 50 –54 and Column 8, Lines 1 - 3): The mixture may further contain other monoethylenically unsaturated monomers (designated as group (b)) that are copolymerizable with group (a), present in amount up to 50% by weight (Column 5, Lines 34 – 36 and Column 8, Lines 3 – 6). Groups (a) and (b) may comprise up to 99.999% of the polymers in the mixture (Column 8, Lines 1 – 10).

The mixture further contains crosslinkers (Column 3, Lines 45 – 53). Inert gases, such as carbon dioxide, are charged under pressure into the mixture for the purpose of foaming, i.e. the inert gases act as blowing agents (Column 11, Lines 62 – Column 12, Lines 14). The mixture also contains surfactants and other optional additives (Column 3, Line 45 – 58).

The above ingredients are combined and then foamed (Column 3, Lines 45 – 48). The composite is then subjected to polymerization, carried out at temperatures from 20 to 180°C (Column 13, Lines 38 – 40 and 60- 62). Crosslinking of the polymers may take

place during or after polymerization (Column 16, Lines 15 – 18 and 36 – 56). After polymerizing the foamed mixture, the water content in the foam is adjusted to 1 – 60% by weight of the composition (Column 3, Lines 64 – 67).

**Regarding Claim 3.** Hähnle et al. indicate the foam prepared by the process of Claim 1 has a density preferably in the range of 0.05 to 0.5 g/cm<sup>3</sup> (50 – 500 g/l) (Column 17, Lines 61 – 62).

**Regarding Claim 5.** Hähnle et al. teach a water-absorbing foam prepared by the process of Claim 1 (Column 3, Lines 41 – 46).

**Regarding Claim 6.** Hähnle et al. teach a water-absorbing foam which has a free absorption speed (FAS)/rate of absorption ranging from 4.00 to 10.00 g/g/sec (Column 18, Line 41 and Column 25, Table 2). The foam also has an absorption capacity ranging from 53.8 to 58.3 g/g (Column 25, Table 1).

**Regarding Claim 8.** Hähnle et al. teach a process for preparing a composite comprising the foam described in Claim 5, as well as a substrate (Column 13, Lines 13 – 20).

**Regarding Claim 9.** Hähnle et al. disclose a process for the production of the composite described in discussion of Claim 8 wherein the foam is applied to a substrate, such as a sheet composed of polymers (Column 13, Lines 13 – 17 and 31 - 40). The composite is then subjected to polymerization, carried out at temperatures from 20 to

180°C (Column 13, Lines 38 – 40 and 60- 62). Crosslinking of the polymers may take place during or after polymerization (Column 16, Lines 15 – 18 and 36 – 56). After polymerizing the foamed mixture, the water content in the foam is adjusted to 1 – 60% by weight of the composition (Column 3, Lines 64 – 67). The polymeric foam may be immobilized on the substrate, for example when the two are joined together as a composite with a sandwich-like structure (Column 13, Lines 31 – 37).

**Regarding Claim 10.** Hähnle et al. teaches the substrate described in the discussion of Claim 9 can be a sheet composed of polymers, metals, nonwovens, fluff, tissues, woven fabric, natural or synthetic fibers, or other foams (Column 13, Lines 15 – 20).

**Regarding Claim 12.** Hähnle et al. disclose a process for the production of the composite described in discussion of Claim 8 wherein the foam is applied to a substrate, such as sheet composed of polymers (Column 13, Lines 13 – 17 and 31 - 40). The polymeric foam may be immobilized on the substrate, for example when the two are joined together as a composite with a sandwich-like structure (Column 13, Lines 31 – 37).

**Regarding Claim 13.** Hähnle et al. teaches the substrate described in the discussion of Claim 12 can be a sheet composed of thermoplastic polymers such as polyethylene or polypropylene (Column 13, Lines 15 – 18).

**Regarding Claim 16.** Hähnle et al. teaches chemical products - such as diapers, sanitary towels, and incontinence articles – containing the water-absorbent, foam-type structure described in the discussion of Claim 5 (Column 19, Lines 7 – 17).

**Regarding Claim 17.** Hähnle et al. teaches chemical products - such as diapers, sanitary towels, and incontinence articles – containing the water-absorbent, foam-type structure as part of a composite, as described in the discussion of Claim 8 (Column 19, Lines 7 – 17).

**Regarding Claim 14.** Hähnle et al. teach a process for preparing a composite comprising the foam prepared by the process described in Claim 1, as well as a substrate (Column 13, Lines 13 – 20).

**Claim 7** is rejected under 35 U.S.C. 102(b) as being anticipated by WO00/52087 to Hähnle et al. For convenience, the citations below for Hähnle et al. are from the English-language equivalent of this document, US 6,750,262.

**Regarding Claim 7.** Hähnle et al. teach a process for preparing a water-absorbing polymer composition by foaming a polymerizable aqueous mixture (Column 3, Lines 45 – 48).

In addition to water, the polymerizable mixture contains monoethylenically unsaturated monomers with acidic groups (designated as group (a)), present in amount from 20 to 85% by weight (Column 4, Lines 50 –54 and Column 8, Lines 1 - 3). The mixture may further contain other monoethylenically unsaturated monomers (designated as group (b)) that are copolymerizable with group (a), present in amount up to 50% by weight (Column 5, Lines 34 – 36 and Column 8, Lines 3 – 6). The polymer component of the mixture also contains crosslinkers (designated as group (c)), present in amount from 0.001 to 12% by weight (Column 8, Lines 7 - 9). The sum of (a), (b), and (c) may then add up to comprise 100% of the polymers in the mixture (Column 8, Lines 1 – 10).

The mixture may also contain other optional additives (Column 3, Line 45 – 58). A solubilizer, for example, is an additive that can be added in an amount from 0 to 50% by weight of the aqueous mixture (Column 10, Lines 40 – 41).

The final foam product foam has a free absorption speed (FAS)/rate of absorption ranging from 4.00 to 10.00 g/g/sec (Column 18, Line 41 and Column 25, Table 2).

Hähnle et al. are silent regarding the absorbency under load of the final foam product. Consequently, the Office realizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredient(s) and process limitation(s). Therefore, the claimed

effects and physical properties, i.e. an absorbency under load of at least 10 g/g, would intrinsically be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over WO00/52087 to Hähnle et al. as applied to Claim 1 above, and further in view of US 4,394,930 to Korpman. For convenience, the citations below for Hähnle et al. are from the English-language equivalent of this document, US 6,750,262.

**Regarding Claim 2.** Hähnle et al. teach a method of preparing a water-absorbing composition but are silent regarding the average molecular weight of the polymers

used. However, Korpman also teaches a method of preparing an absorbent foam product in which the average molecular weight per crosslinkage ranges from about 13,000 to about 300,000 (Column 2, Lines 21 – 36). Hähnle et al. and Korpman are analogous art as they are from the same field of endeavor, namely absorbent polymeric foams. At the time of invention, it would have been obvious to a person of ordinary skill in the art to use a polymer mixture with an average molecular weight in the range taught by Korpman to prepare the foam taught by Hähnle et al. The motivation would been that polymers in the given range are of sufficient molecular weight to be water-insoluble yet water-swellable (Korpman, Column 2, Lines 29 – 32).

**Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over WO00/52087 to Hähnle et al. as applied to Claim 1 above, and further in view of US 6,001,911 to Ishizaki et al. For convenience, the citations below for Hähnle et al. are from the English-language equivalent of this document, US 6,750,262.

**Regarding Claim 4.** Hähnle et al. teach a process for preparing a water-absorbent polymer structure but do not expressly disclose a step in which this structure is smoothed. However, Ishizaki et al. also teach a method of making an absorbent resin in which a crosslinked polymer composition is prepared and then calendared, so that the resultant absorbent product has at least one smooth surface (Abstract). Hähnle et al

and Ishizaki et al. are analogous art as they are from the same field of endeavor, namely absorbent polymeric compositions. At the time of invention, it would have been obvious to a person of ordinary skill in the art to smooth the foam taught by Hähnle et al. The motivation would have been that a foam with a smoothed surface would provide advantages such as comfort to the wearer of an article, for example a diaper, containing this foam.

**Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO00/52087 to Hähnle et al. as applied to Claims 1, 8, and 9 above, and further in view of US 6,033,769 to Brueggemann et al. For convenience, the citations below for Hähnle et al. are from the English-language equivalent of this document, US 6,750,262.**

**Regarding Claim 11.** Hähnle et al. teach a process for preparing a composite but do not expressly disclose that templates are used during the application of the polymeric foam to a substrate. However, Brueggemann et al. also disclose a method for preparing a water-absorbent polymeric foam and then applying it to a substrate using a template (Column 3, Lines 41 – 49). Hähnle et al. and Brueggemann et al. are analogous art as they are from the same field of endeavor, namely water-absorbent polymeric foams. At the time of invention, it would have been obvious to a person of ordinary skill in the art to use templates to form the foam composition taught by Hähnle et al. to

a substrate. The motivation would been that the templates would be useful in applying the foam only within a specified area on the substrate (Brueggemann et al, Column 3, Lines 41 – 49).

*Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Winkler whose telephone number is (571)270-3305. The examiner can normally be reached on Monday - Friday 7:30AM - 5PM E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571)272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MW

September 17, 2007 *MW*

*M. Eashoo*  
MARK EASHOO, PH.D.  
SUPERVISORY PATENT EXAMINER

17/Sep/07